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ABSTRACT

This paper examines the relationship between Paulo Friere's philosophy and methodology in "Pedagogy of the Oppressed" and the use of simulation games for consciousness raising. Friere suggests that the supposed insurmountable barriers facing oppressed peoples are as much a product of their perceptions as they are of the oppressor. The role of the educator according to Friere is to change these perceptions through a liberating form of education in which (1) the relationship between learner and educator is based on mutual respect and openness, (2) the content of education comes from the learner's experience and grows outward, and (3) the methods of education pose open-ended problems related to the basic contradictions of life. In this paper, Smith suggests that simulation games provide the experience to achieve these three tenets since most simulation games are replications of real life experiences. They combine information transfer, analysis, and synthesis of information in which the learner evaluates his own and others' actions, increases verbal and interpersonal skills, and grasps implications of facts and events as they are related to one another. A description of the development of a simulation game, Hacienda, presently in use in Ecuador, follows Friere's methodology of devising problem-solving models through investigation of a target area in which a team identifies contradictions within the community and then pictorially represents them to elicit response from villagers. (KC)

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TECHNICAL NOTE NO. 2

CONCIENTIZACÃO and SIMULATION/GAMES

NOTE WRITTEN BY: WILLIAM A. SMITH

SO 011 569

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SUMMARY:

This note briefly reviews certain aspects of the philosophy of Paulo Freire and relates them to the instructional methodology of simulation/gaming. The author attempts to show how simulation/games can be used to support many of Freire's concepts by promoting a student-educator relationship based upon mutuality, by placing emphasis on complex social reality as the legitimate content of education, and by increasing the student's opportunity to participate actively in the learning process.

This series of Technical Notes has been produced by staff members of the Ecuador Nonformal Education Project. Each note focuses on a particular issue or technique which has been developed and tested in Ecuador. The notes contain the information available at the time of writing and analytic comments based upon available evaluation data. However, the notes are in no way an evaluation of the project. Their purpose is to share ideas and information about new techniques as they are developed. Project staff want to encourage comments and suggestions from readers who may have had experience with similar techniques in other settings.

The project is financed by USAID and is a joint undertaking of the Ministry of Education in Ecuador and the Center for International Education at the University of Massachusetts. Ideas and materials derived from the ideas were created jointly by staff in Massachusetts and staff in Ecuador. All materials have undergone considerable change in the field as usage in various situations indicated needed modifications. The notes attempt to accurately credit the creators of each technique. In some cases, though, ideas have been modified by a variety of people and precise assignment of credit is difficult. In all cases, various members of the staff have made substantial inputs into the final version of the materials.

After three years of effort the number of people in Ecuador and in the United States who have made substantial contributions to this project is considerable. Rather than trying to enumerate the particular contributions of each, we will only note that this has been a genuine bi-national effort.

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INTRODUCTION

The purpose of this paper is to suggest a bridge which might be built between the philosophy of Paulo Freire and the instructional methodology of simulation/gaming. While a brief section will be dedicated to explaining the author's understanding of Freire's concepts no critical analysis of those concepts will be undertaken. The author is quite willing to present himself, for the purposes of this paper, as an uncritical advocate of Freire's position. As regards simulation/gaming, a brief definitional review will be offered but only for the purpose of laying a foundation for the central intent of the paper.

In Pedagogy of the Oppressed Paulo Freire goes further than simply stating a philosophy. He proceeds to outline both the practical implications of that philosophy and to define, ever so briefly, a method for actualizing it. Indeed it was his method and its acclaimed success that first attracted attention to his philosophy. The assumptions upon which this paper is based stem from the relationship between Freire's philosophy and his methodology and include the following:

1) that the attractiveness of Freire's ideas rests as much on their translation into concrete activities as they do upon the weight of his internal logic.

2) that the concrete activities suggested by Freire are not exclusive; that is, that other educational methodologies (although not all) might be adapted to meet Freire's demands for a liberating education.

3) that due to certain special characteristics which will be outlined later in this paper, simulation/gaming offers a powerful possibility for becoming one of those "other" methodologies.

4) and finally, that it is necessary to expand the methodological options open to individuals interested in designing a liberating education.

PAULO FREIRE

During the past five years, Paulo Freire's name has become well-known in education circles around the world. International and national development agencies have sent representatives to workshops on "Freire's method". Ivan Illich calls him a close friend and constantly makes references to his successes with literacy training in Brazil. Many who have read his book, Pedagogy of the Oppressed, find his style tedious and involuted, while at the same time proclaiming his ideas to be exciting and long overdue. Those who have met Freire personally find him to be a serious, mild-mannered, and powerful individual.

Freire was born in the Northeast of Brazil; a region known for its widespread poverty. In 1932, at age eleven, he made a vow "to dedicate his life to the struggle against hunger, so that other children would not have to know the agony he was then experiencing."[1] Although he was from a middle class family, the worldwide depression of the 30's had cast his lot with the poor of Recife. By 1959 Freire had completed a doctoral dissertation at the University of Recife on his philosophy of education. Seventy days after the right-wing military coup of 1964, he was expelled from Brazil.[2]

Freire's expulsion was partly the result of a successful literacy campaign that had been mounted in Recife and the surrounding regions. Known as conscientizacáo Freire's literacy method proved to do more than teach men to read and

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1. Freire, Paulo, Pedagogy of the Oppressed, Herder and Herder, New York, 1970, p. 10.
2. Ibid., general biographical data taken from "Introduction," pp. 9-15.

write. For the first time, hope for a new future and belief in its possibility had become part of the curriculum for the poor.

From Brazil, Freire went to Chile where he worked five years with UNESCO and the Chilean Land Reform Institute. In 1969 he was at Harvard as a consultant, and since February 7, 1970, he has been in Geneva with the Office of Education of the World Council of Churches.[3]

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3. Loc. cit.

FREIRE'S PHILOSOPHY

On reading Pedagogy of the Oppressed one is struck by the reality that Freire first discovered a method that worked and then created a philosophy to explain why. That procedure is refreshing on two accounts. Few of us have found a learning method that works, regardless of the quality of the philosophy we espouse; and those of us who are involved in one that appears to work are hard-pressed to explain why. For clarity's sake, we shall reverse that process here and first discuss Freire's philosophy, only then proceeding to outline the methodology so closely associated with it.

> If for animals, orientation in the world means adaptation to the world, for man it means humanizing the world by transforming it.[4]

This is Freire's premise; man is different from all other creatures. Like Tevia in Fiddler on the Roof, he is able to stop the action, step outside the situation, look at the picture before him, plan actions/goals that will affect the situation and then act. Reflection, transcendence, temporality and intentionality are Freire's words and they provide man with the option to be free and responsible, or enslaved.

Freedom is a sequential relationship between perceiving and acting. It is impossible for Freire's man to act freely until he has seen the world around him critically. While it is difficult to make clear distinctions between the

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4. Freire, Paulo, "The Adult Literacy Process as Cultural Action for Freedom," Harvard Educational Review, XL, No. ?, 182.

various meanings Freire attaches to the concept critical, one suspects that the term involves two processes: critical awareness and critical evaluation. In the first instance, the individual is able to describe what he sees, while in the second he is able to evaluate its relative importance, to make comparisons with other situations, and to formulate concrete responses. The important element is the relationship between man and the situation. Oppression is not simply the situation itself, it is also the perception of the situation by the oppressed. This perception, like other human perceptions, is learned, and consequently it can be molded for both humanizing or dehumanizing purposes.

> Thus it is not the limit-situations in and of themselves which create a climate of hopelessness but rather how they are perceived by men at a given historical moment; whether they appear as fetters or as insurmountable barriers. [5]

These insurmountable barriers are the product of the oppressed as much as they are of the oppressor. Freire describes this as "playing host to the oppressor" and he lists eight ways in which the oppressed perform their role as "host":

1. They accept, rather than reject, their role as oppressed.
2. They identify with the aspirations and values of the oppressor.
3. They accept the opinions which the oppressor holds of the oppressed.
4. They deify the oppressor, endowing him with magical powers beyond their own reach.
5. They see themselves as a "thing" owned by the oppressor.
6. They express aggression against their own kind, denying their ability to strike out against the oppressor.
7. Having established a world order in which they are helpless and dependent upon the oppressor they oppose any changes which might threaten his ability to protect them.

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5. Pedagogy of the Oppressed, op cit., p. 89.

8. They sanctify the entire relationship by making God responsible for the world, and men mere instruments of his will.[6]*

The aim of conscientização is to alter this relationship by changing the oppressed.

> A deepened consciousness of their situation leads men to apprehend that situation as a historical reality susceptible of transformation.[7]

Freire clearly recognizes this transformation as an educational task of extraordinary proportions. In order to explain how he feels it must be accomplished he establishes a dichotomy between oppressor and oppressed. Freire lists ten points which illustrate this relationship. In each case the oppressed teacher is active, initiator, authoritative and dominant, while the oppressed student is passive, follower, meek and fully the "object" of the learning process.[8]

> The students, alienated like the slave in the Hegelian dialectic, accept their ignorance as justifying the teacher's existence - but, unlike the slave, they never discover that they educate the teacher.[9]

Freire opposes this model of education which he calls "banking education" because students are treated like bank accounts into which teachers make periodic deposits of knowledge. Instead he offers the problem-posing model as one option open to individuals interested in a liberating education. The first task of problem-posing education is to dispose of the dichotomy between student and teacher; both becoming actors in a process of mutual communication. No longer is the distinction made between those who know and those who don't. All participants come to practice freedom, and consequently to learn from what Freire calls this "praxis." The methodology of problem-posing education is

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6. Ibid., pp. 49-51.
* For a detailed and fascinating discussion of the relationship between the oppressed and the oppressor see: The Colonizer and the Colonized, by Albert Memmi.
7. Ibid., p. 73.
8. Ibid., p. 59.
9. Ibid., p. 59.

questions and not answers. Whereas success in banker-education was determined by the number of "right" answers delivered by the students to the teacher; problem-posing education offers open-ended questions with answers resulting from a free individual's critical analysis of the situation.[10]

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10. Ibid., pp. 67-68.

FREIRE'S METHODOLOGY

Because this is not intended as a summary of Freire's entire philosophy, we will move now to a description of his methodology as Freire defines it. You should not be misled, however, to assume that we have reviewed the majority, or even the most significant landmarks in Freire's world. Our intent has been to select those which have most relevance for our purposes here.

> In the revolutionary process, the leaders cannot utilize the banking method as an interim measure, justified on grounds of expediency, with the intention of later behaving in a genuinely revolutionary fashion. They must be revolutionary - that is to say, dialogical - from the outset. [11]

The Revolutionary Educator

Dialogue is the functional application of the problem-posing model of education to a group. As such it presupposes the existence of certain basic attitudes or qualities on the part of the revolutionary educator. Love, humility, faith, mutual trust, hope and critical thinking are Freire's essential prerequisites to the establishment of a liberating relationship between the educator and the oppressed. This relationship is a fundamental departure from the banking model of education because it places mutuality as the central concern of the relationship. Freire says, "Authentic education is not carried on by 'A' for 'B' or by 'A' about 'B', but rather by 'A' with 'B'." [12] In order for

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11. Ibid., p. 74.

12. Ibid., p. 82.

"A" to be with "B" he must commit himself to "B" (love); he must recognize his own ignorance as well as that of others (humility); he must believe in "B" as a man "even before he meets him face to face" [13] (faith); he must believe that dehumanization can be prevented (hope) and he must accept reality as a transforming process always in flux (critical thinking). Education becomes the praxis or the practice, of freedom. Both the oppressed and the educator come together as equals bound in a common search for liberation through action - but action which is defined mutually. If the banking-teacher is active and initiates learning based upon his own experience, the liberating educator looks to the learner's experience and forces the learner to be active. If the banking-teacher is authoritative and dominant, the liberating educator is a guide leading the oppressed back to himself. And while the banking-teacher tries to transform the oppressed in his own image, the liberating educator works with the oppressed to transform the outside reality which is the origin of oppression.

The emphasis which Freire places upon these human qualities may be an essential flaw to the mass application of his approach. The question remains whether enough such revolutionary educators exist. In truth Freire does not answer this criticism directly in Pedagogy of the Oppressed. Rather one is led to believe that it is at this point that he wagers his own faith. He seems willing to believe that enough such educators do exist or could be trained, in order to make his ideal a practical reality.

Investigation:

The second essential element of dialogue insists that the content of education originates from the people and their relation to the life situation. At

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13. Ibid. p. 79.

this point, Freire becomes very specific as to how this task is to be accomplished. A group of specialists are assembled representing various social-science disciplines. Their job is to locate what Freire call "generative themes." These themes are the meat of the conscientizacáo process. They represent the existent social reality, a reality of which the oppressed are not critically aware. Each theme has an antithesis; if domination is one theme, liberation is its antithesis.

The first phase of operation is called "investigation" and requires that the team spend time in the local community; interviewing community members in all phases of their activity, keeping careful notes of their conversations, and comparing their perceptions with those of other members of the team. The final product is a list of contradictions present in the community, and a description of the community's level of awareness of each one. An example of a contradiction might be housing; why is it that the landowner has a large house and the farmer has a small house?

Coding

At this point, the team transforms the contradictions into codes - or representations of the contradictions. These codes are usually visual; a picture of a poor house alongside a rich house, a woman bringing food to her husband in jail, or a child sick from drinking well water. The codes must be both specific to the region and sufficiently ambiguous so as not to propagandize the participants. These first codes are experimental. Only through a process in which the villagers themselves decipher* the codes can the team be sure that they have chosen relevant and functional ones.

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* Freire uses the word "decipher" to mean that groups of students discuss and arrive at the significant meaning intended by the visual contradictions.

Decoding

Decodification, the next step, is a small group process. A maximum of twenty villagers are shown the picture codes and asked a sequence of increasingly critical questions concerning them. If the villagers are able to discern the intended contradications, or to generate new ones through the decoding process, then the codes are considered functional and become part of the final materials used. These initial sessions begin the process of conscientizacáo by confronting the villagers with a reality they had not seen previously.

The Literacy Phase

A number of such decodification sessions produces a spectrum of words which are both commonly used by the people and which have generative meaning for them. From this spectrum, words are selected for the literacy phase of the process. The literacy words must not only have generative meaning, but should, when considered together, contain all the sounds of the alphabet. (Two syllable words are preferred to reduce confusion at this stage.) As villagers discuss the words which have been organized by the team in stages of increasing complexity they learn to spell them as syllables. Because both Portuguese and Spanish are highly syllabic languages, villagers are provided with the tools with which to make many new words from the syllables they learned.[14]

These decodification groups, or "cultural circles", are the fundamental organizational unit in Freire's method. As such, they exemplify the essential tenets of his approach which we may summarize as follows:

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14. Ibid., summarized from pp. 101-8.

1) The relationship between the learner and the educator must be based on mutual respect and openness. This requires that the traditional authority role of the educator (as defined in the banking model of education) be replaced by a new role which stresses the importance and centrality of the learner and his experience.

2) The content of education must come from the learner's experience and grow outward, rather than being imposed from the outside and later internalized.

3) The methods of education must pose open-ended problems related to the basic contradictions of life rather than providing standard answers to universally abstract problems.

It is on the basis of these three tenets that we would like to form our case for the relevance of simulation/gaming as a possible instrument of conscientizacão. Before we look at simulations/games it might be best to deal with one question we have avoided until now.

Some of you may be concerned that all this sounds very familiar. Indeed it should. Freire is not the first educator to suggest that the learner's needs are central to the question of education. But it is equally unfair to pass him off as simply a modern Socrates or more contemporary Dewey. Freire has focused specifically on education for the oppressed, an area which until recently was excluded from the domain of most educators. And he has done so in such a way as to illuminate a reality which many of us have ignored. It is impossible for the educated to liberate the uneducated by prescribing education. Liberating education is more than the transfer of information or the imposition of values; it is the practice of freedom. Perhaps Freire's greatest contribution has been to bring the rhetoric of the revolutionary to bear on the problems of the educator (used in its broadest sense) and consequently to force all educators to review their action commitment to their stated ideals.

WHAT ARE SIMULATION/GAMES?

When most people hear the word game they think of "fun." Rarely are games associated with serious activity. The fact is, however, that games, and their modern counterpart, simulations, have played a very serious role in history, in social science, in business, and most recently in education. A game is simply a prestructured experience involving players with an outcome or winner. A simulation is a game which attempts to replicate some real-life, abstract (as in the case of mathematics), or hypothetic experience for the purpose of study or amusement. War games, first exploited by the Germans in the 19th century, were used to study the possible outcomes of military alternatives. Social science has used simulations to help predict the results of social interactions; business began using games and simulations as training devices; and education has begun only recently to appreciate the learning benefits of games and simulations.

For the purposes of this paper we will use the term simulation/game (S/G) which is best defined as 1) a replicated real-life experience 2) involving two or more players 3) who are required to operate under clearly defined constraints 4) for the purpose of achieving a predetermined goal 5) in a concentrated period of time. A simulation game is a special kind of learning experience. In order to understand how it differs from other forms of games, simulated experiences, and more traditional learning tools, we will look for a moment at each of these essential components.[15]

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15. McFarlane, Paul T., "Simulation Games as Social Psychological Research Sites," Simulation and Games, An International Journal of Theory, Design, and Research, II, No. 2, 149.

Unlike roulette, and some forms of mathematical simulations, simulation/games model complex social situations such as life on a Hacienda or the nutritional cycle of food. Through a careful analysis of the real-life situation important variables are isolated and sequenced for use in the S/G. The real-life constraints are built into the S/G in such a way that the learner feels they are acceptable because they seem real. Finally, a goal is established which corresponds to a real-life goal and serves as a measure of success for the learner.

The format of such simulation/games may range from the board game-type most commonly known as "parlor games" to the role-play style which emphasizes personality interaction between players. Most of the S/G's described in these notes are combinations of the two formats utilizing both the visual representation of a board and the powerful interaction process of the role-play.

Simulation/games may have clearly defined winners with players competing against each other, or competing against an outside norm. Although in some cases the role of competition may be secondary to the importance of the game, or entirely excluded if it proves to be unrelated to the real-life situation being replicated.

Chance mechanisms may also play an important role in a simulation game. They serve not only to replicate the part played by "fate" in everyday life, but also provide an easy way to distribute resources among the players. In Hacienda, for example, the role of the hacienda-owner commands a significantly larger share of the wealth and of the advantages in the game. It is considered that the roll of the dice accurately reflects the "accident of birth" by which one man is hacienda owner and another is a peasant laborer. In a culture in which fatalism

plays a large role it is important that players begin to objectify "fate" and discuss it's implications. This may seem a simple gimmick for individuals schooled in an achievement-oriented society, but for rural farmers who willingly accept everything they cannot understand as the "will of God" the opportunity to discuss "why" one man is Hacienda-owner and another Peasant is a major contribution to Freire's concept of conscientizacao.

The other cases CHANCE may play an incidental role to the operation of the S/G. In the case of FOOD, for example, which attempts to replicate the nutritional cycle of locally available foods, chance is of less importance than the logical outcomes of the decisions made by players regarding their purchase and use of food.

The number of participants may vary from two to as many as twenty, or even more, if the S/G is so designed. There are no inherent restraints on the number of players.

Finally, simulation/games may be designed to achieve different educational goals. Most, however, combine several of the following possible goals:[16]

a) Information-transfer: Most S/G's contain a great deal of new information for the learner. This new information is provided in such a way that the learner must use it immediately in order to achieve his own objectives. Experience with this type of information transfer has proven less painless than memorization-for-its-own-sake and consequently more efficient in most cases.

b) Analysis and Synthesis of Information: Because the learner is required to apply the information he has learned to a problem he must solve, he is also required to analyze its relative importance and synthesize it with other bits of information as they are made available to him. This is a real-life process which a well-designed S/G will replicate just as effectively as it provides new information.

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16. Gordon, Alice Kaplan, "Games for Growth," Science Research Associates, Palo Alto, California, 27-32.

c) Evaluation of the learner's own actions: Because a S/G replicates a real-life situation the learner not only acts but he receives feedback on that activitiy as reflected by his "ups and downs" during play. He is immediately aware of the consequences of his actions. This immediate feedback allows him to evaluate his own actions and to make corrections for a future opportunity.

d) Evaluation of other actions: Because S/G's are usually small group activities an individual learner not only sees the results of his own behavior but also the results of other players' activities and he can make judgments, or learn, accordingly.

e) Verbal and interpersonal skills: Many simulation/games which combine both the board-game and role-play formats provide the learner with an opportunity to practice, and consequently develop, verbal skills of persuasion and eloquence, as well as interpersonal skills such as bargaining, providing feedback, and responding to a challenge.

f) Perception of the interrelatedness of events over time: Perhaps the single most powerful aspect of a simulation/game is its ability to concentrate a reality, which normally occurs over a long period of time, into a short span of time. This concentration allows the learner to grasp the implications of facts and events as they are related to one another. When a campesino in real life invests in fertilizer he must wait several months for his "pay-off." Sometimes the pay-off never comes because of intervening events like bad weather or bad seed. Even if he does manage to increase his yields it is hard for him to understand that fertilizer was the important variable. The time-lag between treatment and result is simply too great. Hacienda lasts from two to five hours. Players are encouraged to improve their land by investing in fertilizer and irrigation. The pay-off for such investments are graphically illustrated on the property cards which players receive. Farmers begin to see (in a simplistic fashion, but see, nonetheless) that investment in fertilizer can have real benefits. Similiar relationships are illustrated in Hacienda when loans made by the credit coop are compared to the high interest rates of the Bank, by the investments that farmers decide to make in education, or the risks they decide to take in marketing their goods. In each case the simulation is focusing a whole series of complex and interrelated events in such a way that the player must weigh their accumulated importance and act.

HOW DO SIMULATION/GAMES MEET FREIRE'S REQUIREMENT OF A LIBERATING EDUCATION?

A. "Knowledge emerges only through invention and reinvention through the ceaseless impatient, continuing, hopeful inquiry men pursue in in the world, with the world, and with each other."[17]

Players in simulation/games are the masters of their own destinies within the restraints of the S/G. They are able to make decisions, to cause events, and to control outcomes. As in few other learning environments, the individual feels as though he is within a world over which he personally has some influence. When a player is given a role, it is his interpretation of that role which brings it to life. The player is forced to bring his own experience to bear on the learning environment. That experience then becomes part of the group's experience.

B. FREIRE:

"In order to move, men must perceive their state not as fated and unalterable, but merely as limiting - and therefore challenging."[18]

This is precisely the function of the contraints operating in a S/G. They act to challenge, but not to stifle activity. The player is forced to act on his own behalf. That is, perhaps, the best definition of "play" itself.

C. Simulation/games are replicas of real-life situations. The content of education is reality itself scaled-down, and concentrated so as to be both manageable and useful to the learner.

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17. Pedagogy of the Oppressed, p. 58.

18. Ibid., p. 73.

FREIRE:

> "Accordingly, the point of departure must always be with men in the here and now, which constitutes the situation within which they are submerged, from which they emerge, and in which they intervene."[19]

The process Freire describes as problem-posing parallels very closely the same process used to develop simulation/games like those being used in Ecuador presently. An initial "investigation" phase must precede any actual design work on the simulation. It is essential that visits be made to target areas. Community people are interviewed and careful notes kept on their perceptions of the basic aspects of community life. If the S/G is to have specific roles such as Hacienda-owner, Indian, or Tienda-owner, then the local perceptions of these individuals are important. Gradually, a pilot S/G begins to take form. This pilot corresponds to Freire's initial "codes." Rules are not written down nor do they become fixed. Small groups of individuals from local communities are brought together to play the pilot S/G which is taught to the participants orally. It is made clear that they should make any changes in the S/G which they feel will make it more realistic. These sessions correspond to the initial "decoding" process which Freire requires to check out the validity of the initial codes. Game play is recorded when possible for later analysis. In the case of Hacienda, one group felt the need for a lawyer role to be added. The lawyer became the holder of information about the "rules". He was able to sell information to other players and while he took no active part in the S/G he became a pivotal element in its development. At this stage appropriate changes are made and the S/G is put in a semi-final form. We say

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19. Ibid., pp. 72-73.

semi-final because the S/G never becomes dogmatized. It is seen as a vehicle through which individual communities can express their own reality, and not as an instrument of banking education which provides pat answers.

D. The student-teacher relationship is totally redefined when using a simulation/game. Indeed, it is valid to ask if there exists a "teacher" role at all. Certainly there is no one individual who is the source of truth. The S/G itself, through the interaction of the players, creates its own truth based upon the constraints imposed by the oral rules and structure. Truth is the result of the S/G. And those results are rarely simplistic. For one player there may be large pay-offs for investing in fertilizer; for another his ruin. Fact is not based upon the impostion of outside authority but rather on the interaction of forces which should, if the game is properly designed, reflect real-world forces. The results of a simulation/game form a new reality which may be discussed and analyzed by both participants and observers.

No one has special insights into the results of the game because no one can accurately predict those results. They vary with each group and with each set of decisions made by those groups. Even in cases where an authority figure might be present, he participates on an equal footing with all the players because both are being asked to analyze a shared experience. There is no "teacher" able to say, "but I know and you do not." Both educator and student bring their own special insights to the process they have just experienced. When a farmer says, "I did not invest in fertilizer because I would have had no money left in case my wife got sick (a CHANCE card), than there is no "right" answer to his dilemma. His friends may share with him their feelings about taking such risks but ultimately the decision is up to him.

Because the shared experience is concrete and familiar many students are encouraged to speak out, to become aggressive defenders of their point of view which they are now able to defend utilizing the S/G to make their point. Role playing allows timid players to use their roles as a mouthpiece from which to speak in safety. "But I was acting the way tienda owners act, not what I myself would do." Still others who prefer to remain silent, though they do not speak out initially, gain confidence over a period of time as they see their performance in the game improve.

We can begin now to see how the simulation/game plays the role of liberating educator, rather than banking-teacher. It organizes information and imposes constraints in the form of rules and structure. But it is open-ended, allowing groups of players to change rules which they, as a group, feel are unrealistic. Once, however, that the group has agreed upon a rule that rule stands as unyielding as any real-life restraint. The S/G provokes participants into action, forcing them to make decisions. And finally, it provides a platform from which participants can speak out as equals discussing and analyzing, a common experience. The content of education is transformed from some external reality to an internal one.

E. FREIRE:

> "Those truly committed to liberation must reject the banking concept in its entirety, adopting instead a concept of men as conscious beings, and consciousness as consciousness intent upon the world. They must abandon the educational goal of deposit-making and replace it with the posing of problems of men in their relations with the world."[20]

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20. Ibid., p. 66.

This theme of problem-posing which Freire so strongly advocates is the central theme of simulation/gaming as well. The nature of the game is to pose a problem based upon an abstraction of the real-world in which the learner finds himself. But problems are posed in such a way that the learner is able to act in order to resolve them. When a player is faced with the choice of investing in fertilizer for his next year's crop or passing this opportunity by he is faced with a real-life dilemma. Is a possible future good worth a real risk now? The solution to that problem is complex and depends as much upon the learner's own personality as it does any scientific analysis of the situation. Simulation/games focus upon both the internal and the external factors involved in decision-making.

FREIRE:

> Students as they are increasingly posed with problems relating to the world and with the world, will feel increasingly challenged and obliged to respond to that challenge. Because they apprehend the challenge as interrelated to other problems within a total context, not as a theoretical question, the resulting comprehension tends to be increasingly critical and thus constantly less alienated. [21]

F. As we have pointed out a simulation/game such as Hacienda or Monopoly brings a large number of interrelated problems to bear on the learner. The decision to invest in fertilizer must be weighed against a whole series of other alternatives; investing in education, acquiring a bank loan, having bad luck at the market, or encountering an unexpected illness in the family. The S/G concentrates a series of crucial decision-points, which might normally occur over a long period of time, into a time-span which allows the learner to critically match decision with consequence.

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21. Ibid., p. 69.

G. At no point in Pedagogy of the Oppressed does Freire say that learning should be fun. But this aspect of simulation/games cannot be overlooked. The fact is that most people enjoy playing them if they are well designed. Even for some individuals who find competition odious they enjoy the opportunity to play a role or make decisions which affect the outcome of the game. Experience in the use of simulation/games with rural adults in Ecuador has indicated that S/Gs work in strikingly different cultural settings. Simulation/games were absolutely unknown to the villages of Ecuador's sierra, and yet after only three months we found men carrying Hacienda on foot for miles in order to play it with some friends. It is still necessary to introduce S/Gs to a much broader cultural spectrum, but at this point we are left with a decided optimism that they are applicable in a variety of different cultural environments.

In summary, we have made the case that simulation/games alter the relationship betwen the educator and the learner by mediating that relationship and creating a new experience which brings both together as equals. We have suggested that simulation/games are powerful tools for focusing the content of education on real-world problems related to the actual problems which learners are encountering everyday. And finally, that simulation/games pose open-ended problems which are resolved by the learner based upon his interaction with other players and the real constraints imposed by the S/G.

WHY DO WE NEED SIMULATION/GAMES AS A TOOL OF LIBERATING EDUCATION?

Freire's prerequisite for problem-posing models of education imposes impossible limitations on most traditional forms of educational methodologies. The task of transforming a lecture, a reading assignment, or a test into a form of liberating education is too great a challenge for even the most conscientizacão individual. But Freire offers us his own methodology and a proven record of success; is that not enough? In the author's opinion, it is not.

When conscientizacão becomes a widely accepted goal of education, and let it be clear that presently it is not, it will become susceptible to the criteria applied to all forms of mass education. At the moment the cost of applying Freire's method on a mass scale around the world is uncertain. The problems of training manpower for his approach seem to be extensive because it relies so heavily upon the attitude development of liberating educators rather than any series of "hard skills" they might be asked to learn. Training an educator to be hopeful and loving is a different problem than teaching him to give a lecture in such a way that his students are able to hear him clearly.

Our experience in Ecuador has indicated that locally-selected facilitators are able to use simulation games such as Hacienda effectively with small groups of their peers during evening classes. Additional evidence in the United States come from a national program called "Youth Tutoring Youth" in which teenage underachievers in high school are using games which they themselves

have created to tutor younger underachieving peers.[22] The remarkable result in this program has been a significant increase in the tutors' achievement level. In both of these programs the games help the paraprofessional educators by offering a challenging structure in which both they and their students may interact as equals. These experiences make us hopeful that simulation/games offer a practical vehicle for avoiding the costly and often times unsuccessful attempts at attitude training which Freire's method would seem to require.

Freire himself has stressed the need to adapt his methodology to different social and cultural environments. Speaking in Tanzania recently, he clearly formulated such a challenge for the African participants. But let us agree for a moment that Freire's cultural circles are the best means of promoting a liberating education for some. Modern educational dogma tells us that this will not be so for everyone. Many experts recognize the existence of different learning styles and the importance of matching learning styles with appropriate instructional treatment. If it can be shown that simulation/gaming can also be an effective instrument for conscientizacão we have increased the number of people we can reach by increasing the diversity of our methodological reservoir.

To date the majority of educational research done on simulations has been performed within the context of the school or business environment. In a recently published doctoral dissertation, Alfred S. Hartwell says,

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22. Gartner, Alan, Kohler, Mary and Riessman, Frank, "Children Teaching Children," Harper & Row Publishers, New York. Chapter 3, 53-73.

> Efforts to evaluate the effectiveness of simulation at the secondary school level have also failed to substantiate claims that it excels other techniques in producing cognitive skills. [23]

Dr. Hartwell goes on to point out that one possible explanation for the discrepancy between the enthusiasm of educators who have used simulations and the research findings which indicate their lack of superiority over other instructional strategies is that the current research questions are simply "not measuring the potency of simulation as an instructional method."[24] Add to this that practically no serious research has been done using simulation strategies with non-literate populations and we are left with a powerful argument for continued experimentation in a variety of different instructional settings.

It has been the intent of this paper to indicate how simulation/games might bring a new educational methodology to bear upon the philosophy of conscientizacão. The author is acutely aware of the propensity of a new idea like conscientizacão to attract both charlatans and the naive to its cause. Consequently, the intended outcome of this paper is not the enshrinement of simulation/games in the pantheon of Freire methodology, but rather the consideration and subsequent experimentation with simulation/games as possible new delivery vehicles. The experimentation has already begun in Ecuador as illustrated in other technical notes in this series. But to date it is too limited to provide us with the breadth of information we need to offer simulation/games as a truly cross-cultural and liberating educational methodology.

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23. Hartwell, Alfred S., "The Effects of Role Playing in an Instructional Simulation," Dissertation, University of Massachusetts, School of Education, 1972. 14.

24. Ibid., p. 15.

BIBLIOGRAPHY

Abt, Clark C., Serious Games, Viking Press, New York, 1970.

Freire, Paulo, Pedagogy of the Oppressed, Herder and Herder, New York, 1970.

Freire, Paulo, "The Adult Literacy Process as Cultural Action for Freedom." Harvard Education Review, XL, No. 2 (May, 1970).

Gartner, Alan, Kohler, Mary and Reissman, Frank, Children Teaching Children, Harper & Row Publishers, New York, 1971.

Gordon, Alice Kaplan, Games for Growth, Science Research Associates, Palo Alto, California, 1970.

Hartwell, Alfred S., The Effects of Role Playing in an Instructional Simulation, unpublished EDD Dissertation, University of Massachusetts, School of Education, 1972.

McFarlane, Paul T., "Simulation Games as Social Psychological Research Site," Simulation and Games, An International Journal of Theory, Design, and Research, II, No. 2, (June, 1971).

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